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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,902	04/27/2001	Mituo Maeda	2185-0536P	7579

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EXAMINER

YOON, TAE H

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 04/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/842,902

Applicant(s)

Maeda

Examiner

T. Yoon

Group Art Unit

1714

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 4-27-01, Pre. Bndf
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-7 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-7 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☒ All ☐ Some* ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received
- in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim must end with a period (.), and cannot have two periods.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walpita et al (5,348,990) in view of Zickler et al (US 5,308,892) and Makhija et al (US 5,541,240).

Walpita et al teach a process of mixing a liquid crystal polyester (LCP) and hollow glass sphere at col. 2, line 4 to col. 3, line 30. The LCPs of Walpita et al inherently possess the instant specific gravity and flow temperature since the instant invention also uses LCPs having a higher portion (or mol %) of aromatic units. Also, hollow glass spheres of Walpita et al inherently possess the instant volume hollowness.

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The instant invention further recites the addition of a resin into an upper port and hollow glass spheres into a lower port of the extruder, and further addition of inorganic fibers over Walpita et al.

However, a method of adding fragile fillers into a lower port of a twin screw extruder having a LCP melt is well known practice as taught by Makhija et al, col. 1, line 48 to col. 2, line 46. Makhija et al also teach reinforcing fibers such as glass fibers at col. 4, lines 6-13 and the twin screw extruder having the instant configuration at col. 4, lines 33-49, but a kneader. Kneaders or kneading zones in a twin screw extruder is an optional features as taught by Zickler et al, col. 2, lines 55-65.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to utilize a twin screw extruder taught by Makhija et al having a neader or kneading zone taught by Zickler et al at upper portion of said extruder in Walpita et al since a method of adding fragile fillers into a lower port of a twin screw extruder having a LCP melt is well known practice as taught by Makhija et al and since said hollow glass spheres are fragile fillers as taught by Walpita et al at col. 3, lines 66-68 and since the use of a kneader or kneading zone in an upper portion of an extruder in order to knead a melt resin thoroughly without breaking said hollow glass spheres would be obvious by teaching of Makhija et al and Zickler et al. The further addition of glass fibers in the Walpita et al would be a routine pactice to one skilled in the art since Walpita et al teach good physical strengths and the use of glass fibers in LCPs is well known as taught by Makhija et al.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (703) 308-2389. The examiner can normally be reached on Monday to Thursday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

THY/March 27, 2003


TAE H. YOON
PRIMARY EXAMINER